

REMARKS

Reconsideration and allowance of this application are respectfully requested in light of the above amendments and the following remarks.

Withdrawn claims 3-5 have been canceled. Claims 6 and 8 have been amended, and claims 9-12 have been newly added. The amendments of claims 6 and 8 have been drafted to overcome the issues underlying the 35 USC 112, first paragraph, rejections. Support for the amendments is provided in Figs. 5 and 6 and paragraphs [00431-[0053] of the published specification. The amendments were not presented earlier due to the unforseeability of the remarks presented in the Final Rejection. (It should be noted that references herein to the specification and drawings are for illustrative purposes only and are not intended to limit the scope of the invention to the referenced embodiments.)

Claims 6 and 8 were rejected, under 35 USC §103(a), as being unpatentable over Baum et al. (US 7,016,319). To the extent that these rejections may be deemed applicable to the amended claims, the Applicants respectfully traverse based on the points set forth below.

Claim 6 defines a base station apparatus that assigns a first block of a multicarrier communication band to first data that is encoded and modulated according to received communication quality information and assigns a second block of the multicarrier communication band to second data that is encoded and modulated without regard to the received communication quality information. The first and second frequency blocks are then frequency hopped to communicate the first and second data. The claimed subject matter provides advantages of: (1) increasing the throughput of data using frequency scheduled transmissions on propagation paths known to have high quality and (2) transmitting data with more conservative

encoding and modulation schemes for propagation paths whose quality is unknown (see specification page 7, lines 6-28).

Baum discloses dividing a downlink data frame (i.e., time spectrum) into a plurality of blocks (i.e., individual time periods) and assigning sector transmissions to each of the blocks (see Baum col. 2, lines 29-31 and 44-48). By assigning each sector transmission to a different time period (i.e., block of the data frame), Baum's system precludes the occurrence of two sectors transmitting simultaneously and, thereby, prevents co-channel interference among the sectors (see col. 2, lines 32-36 and 39-41).

However, Baum's disclosure of assigning a time period block to sector transmissions is not the same as the Applicants' claimed subject matter of assigning a block of a multicarrier communication band to data. More specifically, the Applicants' claimed block of a multicarrier communication band is a block of spectral frequencies, whereas Baum's disclosed block is aspecific period of time within a data frame (i.e., time spectrum).

Moreover, the Final Rejection fails to provide any finding of fact to support its conclusion that Baum discloses the Applicants' claimed subject matter of: (1) assigning a resource block to data in accordance with communication quality information received from a communication terminal apparatus and (2) encoding and modulating the data according the received communication quality information. Although the Final Rejection cites Baum's Figs. 6, 7, and 13, these figures only disclose, in relevant part, assigning data to resource blocks in accordance with whether each resource block is full (see Fig. 7, reference character 705) or available (see Fig. 13, reference character 1305). The Final Rejection cites nothing in Baum that discloses the Applicants' claimed subject matter of: (1) assigning a resource block to data in accordance with

communication quality information received from a communication terminal apparatus and (2) encoding and modulating the data according the received communication quality information.

Similarly, the Final Rejection cites nothing in Baum that discloses the Applicants' claimed subject matter of assigning another resource block of the multicarrier communication band to other data without regard to the communication quality information received from the communication terminal apparatus.

Furthermore, claim 6 recites encoding and modulating data without regard to the communication quality information received from the communication terminal apparatus. The Final Rejection proposes that Baum discloses sorting data in the order of their priority, data rate, and quality of service (see Final Rejection, page 5, lines 1-2). The Final Rejection proposes that priority, data rate, and quality of service are not communication quality information and, thus, Baum discloses sorting something without regard to communication quality information (see page 5, lines 2-5).

However, Baum actually discloses sorting users in the order of their priority, data rate, and quality of service (see Baum col. 11, lines 24-27). Thus, even if Baum's disclosed quality of service information were not deemed to be communication quality information (which it is), Baum's disclosure of sorting users in the alleged absence of communication quality information is not the same as the Applicants' claimed subject matter of encoding and modulating data in the absence of such information. Additionally, since Baum's disclosed quality of service is in fact communication quality information, the Applicants submit that it cannot reasonably be maintained that Baum discloses sorting something without regard to communication quality information.

In summary, Baum fails to disclose the Applicants' claimed subject matter of: (1) assigning a first block of a multicarrier communication band to first data, (2) assigning a resource block to data in accordance with communication quality information received from a communication terminal apparatus, (3) encoding and modulating data according the received communication quality information, (4) assigning another resource block of the multicarrier communication band to other data without regard to the communication quality information, and (5) encoding and modulating data without regard to the communication quality information.

Moreover, it is further noted that claim 6 now defines a base station apparatus in which a plurality of blocks are assigned to first data, according to communication quality information from a communication terminal apparatus, and a predetermined block is assigned to second data without regard to the communication quality information. As further specified in new claim 12, the first data may comprise user data and the second data may comprise control data. The claimed subject matter provides an advantage of enabling frequency hopping that uses frequencies having good propagation while reducing interference between cells and transmitting data at high speed. The claimed subject matter makes it possible to reduce the number of frequency hopping patterns, by dividing the band into subcarrier blocks, and the amount of control information that is required for resource assignment (see Fig. 6 and paragraph [0055] of the published specification). More specifically, when first data for which communication quality information from a communication terminal apparatus can be used and second data for which the communication quality information cannot be used are transmitted simultaneously in a multicarrier communication band, blocks are adequately assigned to both of the first data and the second data.

The Final Rejection proposes that Baum discloses the Applicants' claimed subject matter except for explicitly stating that the second data are encoded and modulated without regard to communication quality information from a communication terminal apparatus (see Final Rejection page 3, last five lines). The Final Rejection deems Baum as disclosing the following: dividing at least part of a frame into a plurality of resource blocks and performing transmission scheduling sequentially with respect to a plurality of sectors using these resource blocks (see Baum col. 2, lincs 44-54), assigning each sector to a specific resource block, (2) assigning an N-th transmission to a specific sector, and assigning an (N+1)-th transmission that is assigned within a resource block of another sector to the resource block of the specific sector (see col. 2, lines 55-63). Furthermore, the final Rejection states that Baum discloses that a base station apparatus performs code assignment and code scheduling for users using a code tree (see col. 11, lincs 21-22) and that Baum discloses sorting a plurality of users who request channel resources for data transmission in the order of their priority, data rates, or quality of service and assigning codes sequentially from sectors to which code sub-trees in a lower part of a code tree are assigned, with respect to users of higher priority, higher data rates, or higher quality of service (see col. 11, lines 22-30).

However, it is noted that Baum does not disclose or suggest the Applicants' claimed subject matter of assigning a predetermined block to second data that is encoded and modulated without regard to communication quality information. More specifically, Baum lacks the Applicants' claimed subject matter wherein when first data for which communication quality information from a communication terminal apparatus can be used and second data for which communication quality information cannot be used are transmitted simultaneously in a

multicarrier communication band, blocks are adequately assigned to both of the first and second data.

Accordingly, due to at least the above-noted deficiencies, the Applicants respectfully submit that Baum lacks features of claim 6 and thus per *force* cannot be considered to render obvious the subject matter now defined by claim 6. Independent claim 8 similarly recites the above-mentioned subject matter distinguishing apparatus claim 6 from Baum, but with respect to a method. Therefore, allowance of claims 6 and 8 and all claims dependent therefrom is warranted.

In view of the above, it is submitted that this application is in condition for allowance and a notice to that effect is respectfully solicited.

If any issues remain which may best be resolved through a telephone communication, the Examiner is requested to telephone the undersigned at the local Washington, D.C. telephone number listed below.

Respectfully submitted,

/James Edward Ledbetter/

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